

RINGKASAN

Pengaruh Latihan *Mindfulness-based on Eating* dengan Pendekatan *Social Cognitive Theory* (SCT) terhadap *Self-Efficacy*, Kepatuhan Diet dan Kadar Glukosa Darah pada Diabetes Melitus Tipe 2

Oleh: Sylvi Harmiardillah

Diabetes melitus (DM) termasuk penyakit metabolik yang bersifat kronis progresif ditandai dengan kondisi hiperglikemia akibat kurangnya hormon insulin yang bersifat relatif terutama pada DM tipe 2 (DMT2). Tingkat kejadian DMT2 mencapai 90-95% dari keseluruhan penderita DM. Diet menjadi salah satu komponen dalam *self-management* DM untuk mencapai glukosa darah yang terkontrol, namun beberapa hambatan masih ditemukan dalam pelaksanaan program diet. Hambatan dalam diet berpotensi memicu terjadinya ketidakpatuhan terhadap anjuran diet dan berperan dalam pencapaian kontrol glikemik klien DM (Cheng *et al.*, 2016; Herbozo *et al.*, 2015; Soria-Contreras *et al.*, 2014; Yanakoulia, 2006). Kadar glukosa darah yang terkontrol pada klien DM mengindikasikan keberhasilan perilaku manajemen diri (*self-management*) dan berkaitan dengan tingkat *self-efficacy* sehingga menghasilkan kontrol metabolik yang disertai sikap kepatuhan dan tanggung jawab (Shrivastava *et al.*, 2013). *Self-efficacy* merupakan salah satu konstruksi dalam *social cognitive theory* (SCT) yang dikaitkan dengan perilaku diet termasuk kepatuhan.

Intervensi *mindfulness* membentuk kepedulian dan perhatian terhadap peristiwa dan pengalaman, serta memperbaiki regulasi dan pola makan (*eating pattern*) (Miller *et al.*, 2014). Latihan *mindfulness* saat aktivitas makan meningkatkan respon isyarat fisiologis tubuh saat kondisi lapar maupun kenyang serta meningkatkan *self-awareness* melalui dialog internal yang berkontribusi terhadap penyusunan kembali pola perilaku yang adaptif (*Re-patterning behavior*) (Tak *et al.*, 2015). Perhatian terhadap sensasi, pikiran, dan perasaan saat aktivitas makan dapat mengurangi perilaku makan yang bermasalah sehingga klien DM mampu membuat keputusan sendiri tentang apa, kapan, dan berapa banyak makanan yang harus dikonsumsi (Albert *et al.*, 2012). Pengetahuan, *self-efficacy*, manfaat, harapan hasil, tujuan, fasilitator, dukungan dan hambatan dalam berperilaku adalah beberapa konstruksi dalam teori SCT yang mempengaruhi pembentukan perilaku dan motivasi (Stacey *et al.*, 2014).

Tujuan dari penelitian ini adalah mengetahui seberapa besar pengaruh latihan *mindfulness-based on eating* dengan pendekatan *social cognitive theory* (SCT) terhadap kepatuhan diet, *self-efficacy* dan kadar glukosa darah pada Diabetes melitus tipe 2. Penelitian ini menggunakan rancangan penelitian *quasy experimental* dengan metode *pretest-posttest control group design*. Metode pengambilan sampel yang digunakan adalah *purposive sampling* sebanyak 27 responden pada masing-masing kelompok (kelompok perlakuan dan kelompok kontrol). Intervensi dilakukan melalui kunjungan rutin, 8 sesi latihan didasarkan pada prinsip dan keterampilan dasar *mindfulness-based on eating* dan komponen

regulasi diri teori SCT diaplikasikan. Latihan dilaksanakan 2 sesi per harinya menggunakan media edukasi video *slideshow*, sedangkan instruksi pelaksanaan latihan *mindfulness based on eating* menggunakan alat mp3 berisi rekaman suara peneliti berdurasi 10 menit yang didengarkan oleh responden melalui *headset*. Setiap pertemuan dilakukan selama 30 menit pada pagi hari, sebanyak 2 kali kunjungan dalam seminggu selama 4 minggu. Evaluasi kadar glukosa darah dilakukan setiap akhir sesi tiap minggu, sedangkan evaluasi intake kalori harian menggunakan *24-hours food recall* dilakukan oleh ahli gizi tiap 2 minggu. Kepatuhan diet dan *self-efficacy* diukur menggunakan kuisioner di awal dan akhir intervensi penelitian. Instrumen kepatuhan diet diukur menggunakan kuisioner PDQ (*Personal Diabetes Questionnaire*) yang disusun oleh Stetson, *et al* (2011) dan dimodifikasi oleh peneliti, sedangkan instrumen *self efficacy* menggunakan lembar kuisioner DIET-SE yang disusun oleh Stich & Tint (2009) dan dimodifikasi oleh peneliti. Kuisioner telah dilakukan uji validitas dan reliabilitas dan dinyatakan valid dan reliabel. Analisis inferensial menggunakan uji *Mann Whitney* dan *Independent t-test* dengan tingkat kemaknaan $\alpha < 0,05$. Hasil uji *Mann Whitney* pada variabel kepatuhan diet menunjukkan terdapat perbedaan yang signifikan antara kelompok intervensi dan kelompok kontrol ($p = 0,031$). Hasil uji *Mann Whitney* pada variabel *self-efficacy* menunjukkan terdapat perbedaan yang signifikan antara kelompok intervensi dan kelompok kontrol ($p = 0,026$). Hasil uji *Independent t-test* pada variabel kadar glukosa darah menunjukkan terdapat perbedaan yang signifikan antara kelompok intervensi dan kelompok kontrol baik kadar glukosa darah puasa (GDP) ($p = 0,001$) maupun kadar glukosa darah *post prandial* (GDPP) ($p = 0,001$).

Latihan *mindfulness-based on eating* membantu menimbulkan kontrol dalam perilaku makan, meningkatkan isyarat lapar dan kenyang, meningkatkan kepekaan terhadap sensasi rasa makanan melalui perhatian dan konsentrasi pada saat aktivitas makan berkontribusi terhadap kecukupan porsi habis makan, kenyamanan saat makan dan pembatasan asupan makanan yang tidak dianjurkan. Latihan ini secara tidak langsung mempermudah responden untuk menerapkan prinsip 3 J dalam diet. Latihan *mindfulness-based on eating* membantu mencapai penyesuaian porsi habis makan klien DM berdasarkan kecukupan dan rasa puas yang dirasakan klien DM pada saat makan berdampak pada *intake* asupan kalori sehari-hari, hal ini berpotensi dapat mempengaruhi kadar glukosa darah pada klien DM. Latihan *mindfulness-based on eating* dengan pendekatan SCT mengandung informasi yang dapat mempermudah klien DM untuk mematuhi anjuran diet sehingga berpengaruh terhadap ekspektasi seseorang tentang hasil yang akan dicapai dan akan berkontribusi pada *self-efficacy*. Konsekuensi respon dan hasil yang dirasakan juga berdampak pada motivasi dan komitmen dalam melakukan latihan.

EXECUTIVE SUMMARY

Effects of Mindfulness-based on Eating with Social Cognitive Theory (SCT) Approach to Self Efficacy, Diet Compliance and Blood Glucose Levels in Type 2 Diabetes Mellitus

By: Sylvi Harmiardillah

Diabetes mellitus (DM) is progressive chronic metabolic disease characterized by condition hyperglycemia due to lack of insulin hormones that are relative primarily in type 2 DM (DMT2). The incidence rate of DMT2 reached 90-95% of the overall DM patients. Diet becomes one of the components in self-management of DM to achieve controlled blood glucose, but some obstacles are still found in the implementation of diet programs. Barriers in the diet have the potential to trigger non-compliance with dietary recommendations and play a role in achieving glycemic control of DM clients (Cheng et al., 2016; Herbozo et al., 2015; Soria-Contreras et al., 2014; Yanakoulia, 2006). Controlled blood glucose levels in DM clients indicate the success of behavior self-management and are related to the level of self-efficacy resulting in metabolic control accompanied by compliance and responsibility (Shrivastava et al., 2013). Self-efficacy is one of the constructs in social cognitive theory (SCT) associated with dietary behavior including compliance.

Mindfulness awareness and attention to events and experiences, as well as improve regulation and eating patterns (Miller et al., 2014). Mindfulness exercise during feeding activity enhances the body's physiological alert response during hunger and satiety and increases self-awareness through internal dialogue that contributes to the re-adaptive behavioral patterns (Re-patterning behavior) (Tak et al., 2015). Attention to sensations, thoughts, and feelings during eating activities can reduce eating behaviors that are problematic, so that DM clients are able to make their own decisions about what, when, and how much food to consume (Albert et al., 2012). Knowledge, self-efficacy, benefits, expectations of outcomes, goals, facilitators, support and barriers in behavior are some constructs in SCT theory that influence the formation of behavior and motivation (Stacey et al., 2014).

The purpose of this research is define to how much influence of exercise mindfulness-based on eating with approach social cognitive theory (SCT) against dietary compliance, self-efficacy and blood glucose levels in type 2 diabetes mellitus. This study was used quasy experimental pretest-posttest control group design. Sampling method was used purposive sampling as much as 27 respondents in each group (treatment group and control group). Interventions were conducted through routine home visits, contained 8 practice sessions based on the basic principles and skills of mindfulness-based on eating and self-regulatory component of SCT theory. The exercises are conducted 2 sessions each day using slideshow video education, while the instruction of mindfulness based on eating exercise using the mp3 tool contains a sound recording of 10 minute that is heard

by the respondents through the headset during eating. Each visitation is held for 30 minutes in the morning, 2 times a week for 4 weeks. Evaluation of blood glucose level was measured at the end of every week, while daily caloric intake evaluation using 24-hours food recall was measured by nutritionist every 2 weeks. Dietary compliance and self-efficacy were measured using questionnaires at the beginning and ending of the study intervention. Dietary compliance instruments were measured using a PDQ (Personal Diabetes Questionnaire) questionnaire compiled by Stetson, et al (2011) and modified by the researchers, while the instrument of self efficacy used the DIET-SE questionnaire compiled by Stich & Tint (2009) and modified by researchers. Both questionnaires have been tested for validity and reliability and declared valid and reliable. Inferential analysis using Mann Whitney and Independent t-test with significance level $\alpha < 0.05$. The result of Mann Whitney test on diet compliance variable showed significant difference between intervention group and control group ($p = 0.031$). The results of Mann whitney test on the self-efficacy variable showed significant differences between the intervention group and the control group ($p = 0.026$). The results of Independent t-test on the variable blood glucose levels showed a significant difference between the intervention and control groups both fasting blood glucose (FBG) ($p = 0.001$) as well as blood glucose levels post prandial ($p = 0.001$).

Mindfulness-based on eating exercises help to control the eating behavior, increase hunger and satiety, increase sensitivity to the sensation of food flavor through attention and concentration when eating activity contributes to the adequacy of portion-eaten, comfort at meals and restrictions on food intakes that were banned. This exercise indirectly facilitates the respondents to apply the 3 J principle in the diet. Mindfulness-based on eating exercises help achieve the adjustment of the consumed portion of DM clients based on the adequacy and satisfaction felt by DM clients during meals impacts to the daily of calorie intake, potentially affecting blood glucose levels. Mindfulness-based on eating exercises with SCT approach contain information that can facilitate DM clients to adhere to dietary recommendations that affect to a person's expectations of the outcomes to be achieved and will contribute to self-efficacy. Consequences of responses and perceived of benefits also have an impact on motivation and commitment in exercising.

ABSTRAK

Pengaruh Latihan *Mindfulness-based on Eating* dengan Pendekatan *Social Cognitive Theory* (SCT) terhadap *Self-Efficacy*, Kepatuhan Diet dan Kadar Glukosa Darah pada Diabetes Melitus Tipe 2

Oleh: Sylvi Harmiardillah

Pendahuluan: Diet merupakan salah satu komponen *self-management* DM untuk mencapai glukosa darah yang terkontrol, namun beberapa hambatan situasional dalam program diet menyulitkan klien DM untuk mengikuti diet yang ditetapkan dan memicu ketidakpatuhan. *Self-efficacy* merupakan salah satu konstruksi dalam *social cognitive theory* (SCT) yang dikaitkan dengan perilaku diet termasuk kepatuhan Latihan *mindfulness-based on eating* bekerja pada *outcome* diet yang positif melalui perbaikan perilaku makan dalam berbagai situasi dengan melibatkan kesadaran saat aktivitas makan dan dialog internal yang berkontribusi terhadap penyusunan kembali pola perilaku (*Re-patterning behavior*). **Metode:** Penelitian ini menggunakan rancangan *quasy experimental* dengan metode *pretest-posttest control group design*. Teknik *sampling* yang digunakan adalah *purposive sampling* diperoleh 27 responden pada masing-masing kelompok (perlakuan dan kontrol). Uji statistik yang digunakan adalah uji *Mann Whitney*, *Wilcoxon*, *Independent t-test*. **Hasil:** Hasil uji statistik menunjukkan latihan *mindfulness-based on eating* dengan pendekatan *social cognitive theory* (SCT) berpengaruh terhadap *self efficacy* ($p = 0,026$), kepatuhan diet ($p = 0,031$) dan kadar glukosa darah ($p = 0,001$) dibandingkan dengan kelompok kontrol. **Diskusi dan Saran:** Latihan *mindfulness-based on eating* dengan pendekatan *social cognitive theory* (SCT) secara signifikan meningkatkan nilai kategori *self-efficacy* dan kepatuhan diet yaitu dari tingkat *self-efficacy* sedang ke tingkat *self-efficacy* tinggi, tingkat kepatuhan cukup ke tingkat kepatuhan baik, dan menurunkan kadar glukosa darah rata-rata secara signifikan di akhir intervensi. Latihan *mindfulness-based on eating* dapat disosialisasikan sebagai strategi untuk mengatasi masalah diet dan kontrol glukosa darah pada DM tipe 2.

Kata kunci : diabetes melitus, *mindfulness*, *self-efficacy*, diet, glukosa darah, *social cognitive theory*

ABSTRACT

Effect of Mindfulness-based on Eating with Social Cognitive Theory (SCT) Approach to Self-efficacy, Diet Compliance and Blood Glucose in Type 2 Diabetes Mellitus

By: Sylvi Harmiardillah

Introduction: Diet is one component of self-management DM to achieve controlled blood glucose, but some situational obstacles in the diet program make it difficult for DM clients to follow a prescribed diet and trigger non-compliance. Self-efficacy is one of the constructs in social cognitive theory (SCT) associated with dietary behavior including compliance. Mindfulness during feeding activity enhances the body's physiological alert response during hunger and satiety and increases self-awareness through internal dialogue that contributes to re-patterning the adaptive behavioral patterns. **Method:** This study used research design quasy experimental with method pretest-posttest control group design. Sampling method used was purposive sampling as much as 27 respondents in each group (treatment and control). The statistical test used is Mann Whitney, Wilcoxon, Independent t-test. **Result:** The statistic test result showed that mindfulness-based on eating exercise with social cognitive theory (SCT) approach had an effect on self efficacy ($p = 0.026$), diet compliance ($p = 0.031$) and blood glucose level ($p = 0.001$). **Discussion and Suggestion:** Mindfulness-based on eating exercise with social cognitive theory (SCT) approach significantly increases the value of categories self-efficacy and dietary compliance from the moderate self-efficacy level to the high self-efficacy levels, moderate adherence to high adherence level of dietary compliance, and lowering on average of blood glucose levels significantly at the end of the intervention. Mindfulness-based on eating exercise can be socialized as a strategy to address dietary problems and blood glucose control in type 2 diabetes.

Keywords: diabetes mellitus, mindfulness, self-efficacy, diet, blood glucose, social cognitive theory